

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of processing at least first and second time domain plethysmographic signals obtained from a patient, said method comprising the steps of:

selecting at least one desired portion of the first time domain plethysmographic signal;
selecting at least one desired portion of the second time domain plethysmographic signal;
transforming the selected desired portions of the first and second time domain plethysmographic signals into first and second frequency domain plethysmographic signal portions corresponding to the selected desired portions of the first and second time domain plethysmographic signals;

applying log transformations to the first and second frequency domain plethysmographic signal portions to obtain first and second log transformed frequency domain plethysmographic signal portions corresponding to the selected desired portions of the first and second time domain plethysmographic signals;

transforming the first and second log transformed frequency domain plethysmographic signal portions into first and second cepstral domain plethysmographic signal portions corresponding to the selected desired portions of the first and second time domain plethysmographic signals; and

examining at least one of the first and second cepstral domain plethysmographic signal portions to obtain information therefrom relating to a physiological condition of the patient.

2. (Original) The method of claim 1 wherein the physiological condition of the patient comprises a pulse rate of the patient.

3. (Original) The method of claim 1 wherein said step of selecting at least one desired portion of the first time domain plethysmographic signal comprises:

positioning a first data selection window over the desired portion of the first time domain plethysmographic signal; and

adjusting a length of the first data selection window to correspond with a length of the desired portion of the first time domain plethysmographic signal;

and wherein said step of selecting at least one desired portion of the second time domain plethysmographic signal comprises:

positioning a second data selection window over the desired portion of the second time domain plethysmographic signal; and

adjusting a length of the second data selection window to correspond with a length of the desired portion of the second time domain plethysmographic signal.

4. (Original) The method of claim 3 further comprising:
analyzing the first and second time domain plethysmographic signals without selecting portions thereof to identify at least one region of each of the first and second time domain plethysmographic signals wherein motion artifacts present in the first and second plethysmographic signals are below an acceptable level.

5. (Original) The method of claim 1 wherein said step of transforming the selected desired portions of the first and second time domain plethysmographic signals to first and second spectral domain plethysmographic signal portions comprises performing Fast Fourier Transform operations on the selected desired portions of the first and second time domain plethysmographic signals, and wherein said step of transforming the first and second spectral domain plethysmographic signal portions to first and second cepstral domain plethysmographic signal portions comprises performing Fast Fourier Transform operations on the first and second spectral domain plethysmographic signal portions.

6. (Original) The method of claim 5 further comprising:
adjusting a size of the Fast Fourier Transform operations in accordance with a predetermined parameter.

7. (Original) The method of claim 6 wherein the predetermined parameter comprises the patient's pulse rate.

8. (Original) The method of claim 1 further comprising:
transmitting a red wavelength optical signal through a tissue site of the patient to obtain the first time domain plethysmographic signal; and
transmitting an infrared wavelength optical signal through the tissue site of the patient to

obtain the second time domain plethysmographic signal.

9. (Original) The method of claim 8 wherein the physiological condition of the patient comprises an SPO2 level of the patient.

10-36. (Withdrawn)